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DEVICE FOR OPERATING DELAYING / ACCELERATION

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DEVICE FOR OPERATING DELAYING / ACCELERATION DEVICES OF A MOTOR VEHICLE

Technical task:

The task of the technical innovation is to provide a space-saving alternative for the brake / accelerator pedal, which is adapted to the needs of an autonomously driving vehicle.

Initial situation:

In the case of autonomously driving motor vehicles, it may be required from a legal point of view (depending on country or location) or, from the customer's point of view, it may be desirable for the occupant in certain cases to assume management tasks such as steering or braking. In brake-by-wire systems, if necessary, the fallback level to be actuated mechanically by the driver is no longer required or the energy / force for the braking operation can be taken from the redundant energy network (batteries).

Solution:

Instead of using pedals, one integrates force sensors in one or two footrests, which in case of need provide the passenger with force control for decelerating or accelerating the vehicle.

Variant:

If the occupant exceeds a certain level of force, a deceleration / acceleration is performed with force control, so that the risk of accidental misuse can be reduced.

In addition, a mechanical or electromechanical element can be integrated into the footrest (eg spring-loaded, similar kickdown box or an active actuator), so that the passenger receives a haptic feedback about the entry into the deceleration / acceleration area or the deceleration / Acceleration level (eg vibration) gets.

Advantages:

- The pedals no longer disturb the passenger in the footwell (ergonomics, crash).
- When designing the vehicle, the pedal travel in the dimension concept does not need to be provided.
- The usable interior and / or trunk is larger at the same vehicle length or the vehicle can be made shorter.
- Nevertheless, there is the possibility for the occupant to actively intervene in the longitudinal dynamics (braking / accelerating) and to take over these.

Possible application:

- Autonomous vehicles.

Technische Neuerung

